

expanded, thickened within. Surface finely thread-striate. Greatest diam. 19 mm., height 11 mm.

Meach's Lake, Hull, Quebec. 45058 ANSP., collected by Chief Justice F. R. Latchford.

CONCHOLOGICAL NOTES FROM THE HAWAIIAN ISLANDS

BY JUNIUS HENDERSON

With my brother, Frank G. Henderson, of Los Angeles, and his son, I spent five weeks of last July and August in the Hawaiian Islands, mostly on Oahu. Occasionally we were able to get away from the serious business of swimming in the surf of famed Waikiki, for collecting trips to Pearl Harbor, Waimea, Haleiwa and other places along the coast. A few items may be of interest to readers of *THE NAUTILUS*.

We found that the Chinese, Japanese and Hawaiians eat almost any marine animals, even sea urchins. It is not uncommon to see the women gathering the tiny marine *Neritas* by bucketsful from the rocks at low tide, and they are sometimes sold in the fish markets. We did not notice them getting the *Neritinas* from fresh-water sloughs, though they are abundant locally, larger and seemingly as suitable for food, but *N. granosa* Sowerby was frequently noticed in the markets. Other species of mollusks common in the fish markets at the time of our visits are *Tapes philippinarum*, *Purpura aperta* Blainville, *Thais harpa* (Conrad), *Cellana exarata* Nuttall, *C. argentata* Sowerby, and an occasional large *Cypraea mauritiana* Linn.

Bryan, in his Natural History of Hawaii, mentions *Helcioniscus* (= *Cellana*) *exaratus* an oblong species of limpet, marked by very strong, regular, sharply-defined, radiating ribs, but does not mention the much larger *H. argentatus*, which is nearly circular, with weaker, less regular sculpture and silvery within. The largest examples of the latter now before me measure 67 x 70, 67 x 72 and 67 x 74 mm., while the largest *exaratus* measure 40 x 53, 37 x 49 and 44 x 56 mm. Bryan's figure labeled *exaratus* is surely *argentatus*. We have both species

also fossil from elevated Quaternary beaches on the islands of Maui, Kauai and Niihau, obtained by Dr. Norman E. A. Hinds, now of the University of California. We also found both species fossil by the railroad bridge near Waimea, Oahu, associated with *Purpura aperta* and *Cypraea tessellata* Swainson.

In the same book Bryan records *Hinnites giganteus* Gray, a California species, from the Hawaiian Islands. I always considered that an error and am now convinced of it. We found no *Hinnites* and learned of none found on the islands, but did find a species of *Spondylus*, in the coral dredgings at Pearl Harbor and Waikiki, that externally very closely resembles *H. giganteus*, though of course the hinge is different. This may explain the Hawaiian record. Dr. W. H. Dall writes me out of his large experience with Hawaiian mollusks and his access to the National Museum, that the *Hinnites* does not occur there.

Conrad, in "Descriptions of New Marine Shells from Upper California," Jour. Acad. Nat. Sci. Philadelphia, Vol. VII, 1847, pp. 227-268, described quite a number of species from other regions, including the Hawaiian Islands, or Sandwich Islands, as they were then commonly called. *Mytilus crebris-triatus*, *Perna incisa*, *P. costellata*, *Avicula pallida*, *A. nebulosa*, *Cytherea hieroglyphica*, *Chama iostoma* (Atooi[=Kauai]), *Tellina dispar*, *T. obliquilineata*, *Anatifa carinata* and *engonata* (barnacles), *Purpura bulbiformis* and *P. foliacea* (Atooi[=Kauai]), are all definitely assigned to these islands by him, a pretty good list for a paper purporting in its title to deal only with California shells, but that is not all. Pease long ago declared that *Purpura* (= *Thais*?) *harpa*, attributed by Conrad to Santa Barbara, California, is found only in the Hawaiian Islands. *Perna californica* is also Hawaiian and is so placed by Conrad, notwithstanding the misleading specific name he gives it.

We come now to *Cypricardia* (*Trapezium*) *californica*, which according to Conrad, "inhabits soft argillaceous rocks, which are bare at low water, with the Pholades [*Pholas californica* and *P. penita*], in the vicinity of Sta. Diego and Sta. Barbara." I have never found this species on the Pacific Coast and have not seen it in any collection from America. However, we found several examples of fossil in the deep dredgings from the ancient

coral reef, a quarter of a mile or so back from the present beach at Waikiki, and in the dredgings used as ballast on the railroad between Pearl City and Waipio, in both cases plainly fossil. Dr. Dall writes that he considered this the same species as *Trapezium duperryi* Desh., 1841. Common sense suggests that Conrad's misleading specific name should be discarded in favor of Deshayes' later one, but the rule of priority seems to stand in the way. This also applies to *Perna californica*.

In a brief walk along the railroad tracks east of Waipio we obtained from the ballast 67 species of mollusks, all or nearly all of which are still living along the coast of the island. In the dredgings said to have come from 20 to 30 feet deep in the coral far inland at Waikiki we obtained just 100 species. In the railroad cut east of Waipio, 15 or 20 feet above the present high-tide line, we found a thick deposit composed almost entirely of *Ostrea retusa* "Pease" Sowerby, a species that, so far as we learned, is not now living on the island. This is not kitchen-midden material, but a true fossil deposit *in situ*.

NEW VARIETIES OF STAGNICOLA FROM WISCONSIN AND WYOMING

BY FRANK C. BAKER¹

During the preparation of the manuscript for the Monograph of the Fresh Water Mollusca of Wisconsin, two forms of *Stagnicola* have been observed which appear to need recognition as varieties. These are described below.

STAGNICOLA EMARGINATA VILASENSIS NOV. var.

Shell large, elongate-ovate to almost globular in form, inflated, thin to rather thick; periostracum brownish to whitish horn color; surface dull, sculpture of coarse growth lines and well-developed spiral lines; heavy spiral ridges are present on

¹Contribution from Museum of Natural History, University of Illinois, No. 41.